

THE
AMERICAN JOURNAL
OF THE MEDICAL SCIENCES
FOR OCTOBER 1858.

ART. I.—*Veratrum Viride* as an Arterial Sedative. A Mutual Paper made up of Contributions from the Members of the Middlesex East District Medical Society, Massachusetts. Compiled for the Society by EPHRAIM CUTTER, M. D., of Woburn, TRUMAN RICKARD, M. D., of Woburn, and WILLIAM INGALLS, M. D., of Winchester.

It has been said that he who causes two blades of grass to grow where before there had been but one, is justly entitled to be called a public benefactor. How much more, then, does this honourable appellation belong to him who extends the boundaries of therapeutics, who increases the number of truly valuable remedial agents, thereby adding strength to the panoply wherewith we seek to break or turn aside the shafts of disease and death. It has ever been the belief of some that nature has in store an antidote for every disease to which the human race is subject. Be this as it may, one thing is certain—if we interrogate her within her hidden retreats, and seek to extort truth from her grasp by the tortures of the retort and the crucible, she has been wont not seldom to reward our labours and our researches by disclosing to us facts not only of the highest interest to science, but often of untold value to the health and well-being of mankind.

The thought must have occurred many a time to the experienced practitioner, while looking anxiously upon the wasting and unchecked ravages of fever, by whatever cause produced, that could he summon to his aid some potent remedy, the sure effect of which would be a marked reduction in the frequency of the pulse, without danger to life, he would have it in his power to exert a control over the disease, and render the restoration of his patient more sure and speedy.

Among the recent additions to the *Materia Medica* is to be reckoned the
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VERATRUM VIRIDE. As early as 1835, Dr. Samuel Osgood, of Providence, R. I., a pupil of Prof. Tully, of New Haven, called the attention of the medical profession to this plant, by an article in the *American Journal of the Medical Sciences* (vol. xvi. p. 296). Even before that time its properties were not wholly unknown, and it was used, to a limited extent, in certain diseases, particularly rheumatism. Nevertheless, it ere long fell into disuse, for the reason, it may be, that it failed of proving a specific in rheumatism, while colchicum, whose star was then in the ascendant, bid fair of attaining to that distinguished honour. Some seven or eight years ago, attention was called anew to the American veratrum by Dr. W. C. Norwood, of Cokesbury, S. C. Articles appeared occasionally in some of the medical journals, respecting its properties. In November, 1856, the Middlesex East District Medical Society, in Massachusetts, had its attention invited to it by one of its members, and a quantity of the tincture was prepared by him and distributed among them for trial. Since that time they have been in the constant use of it, with results which they deem very important. Much valuable testimony has accumulated upon the pages of their note-books, proving conclusively, to their minds, its reliability as an **ARTERIAL SEDATIVE** in most inflammatory affections. In March, 1858, the Society appointed the writers of this article a committee to bring this remedial agent to the direct attention of the Massachusetts Medical Society by distributing a quantity of the tincture among its Fellows. Accordingly, they prepared and presented a bottle of the tincture to each member present at the annual meeting in May last. Accompanying each bottle was a brief circular, containing certain leading facts derived from the experience of the District Society. For additional testimony reference was made to the cases which make up the most important part of this paper. Aware that new remedies, brought forward with no sufficient guarantee of their merits, are received by the profession with a degree of distrust, they adopted this course, believing that a trial alone was needed to establish the medicine in the confidence of their medical brethren. It is an interesting fact that it has already been subjected to a widely extended and close scrutiny—a scrutiny such as has seldom befallen any other article of the materia medica within the same period of time—and that, too, with results the most pleasing and satisfactory. We question whether there is any one who has given it a fair trial, who does not regard it as worthy of taking its rank among the few therapeutical agents upon which physicians may place the strongest reliance when contending with giant diseases.

Botanical Characters.—**VERATRUM VIRIDE**, Ait. (*V. album*, Michx.) *American White Hellebore, Indian Poke, Meadow Poke, Itch Weed.*—The American veratrum belongs to the natural order Melanthaceæ. The stem is stout, very leafy, from 2 to 4 feet high; leaves broadly oval, pointed, sheath-clasping, strongly plaited, of a yellowish-green colour, the lower from six inches to a foot long; inflorescence paniculate, panicle pyramidal, the dense spike-like racemes spreading, perianth yellowish green, spreading. Grows somewhat

abundantly in swamps, moist meadows, open woods, and along the banks of mountain streamlets, from Canada to Georgia. In New England it begins to send up its leaves early in April, and blossoms the latter part of May, continuing in flower till July. According to Dr. Gray, this species is very closely allied to the *V. album*, the true *white hellebore*, a native of the mountainous regions of Central and Southern Europe.

Part used.—The officinal part is the root, consisting of a thick, fleshy rhizoma, tunicated above, while the lower part is solid, sending off numerous long white or yellowish-white radicles. These are smaller and whiter than those of the *symplocarpus fetidus*, by the side of which it very frequently grows.

Physical Properties.—The root, both in the green state and when dried, has a sweetish bitter taste, and produces a burning sensation in the mouth, upon the tongue, in the fauces and throat, together with a sensation of dryness and heat, extending even to the stomach, and continuing for a considerable time. When dried and powdered, it acts as a powerful sternutatory and errhine, causing an abundant flow from the Schneiderian membrane. Applied locally, it is capable of producing irritation, rubefaction, and even vesication of the skin. (Wood, *Therapeutics and Pharmacology*.)

Chemical Composition.—From a careful analysis, Mr. Henry Worthington (*American Journal of Pharmacy*, vol. x. p. 97) found the root of the *V. viride* to contain gum, starch, sugar, bitter extractive, fixed oily matter, colouring matter, gallic acid, an alkaloid substance identical with veratria, lignin, and the salts of lime and potassa. According to Griffith, the veratria exists in the form of a super-gallate. The alkaloid principle is very nearly insoluble in water, more soluble in ether, and entirely soluble in absolute alcohol. This shows that high-proof alcohol should be used in preparing the tincture.

Time of Collecting the Root.—The proper time for collecting the root is late in the fall, after the decay of the leaves and stalk. The Middlesex East District Society, however, have used specimens of tincture prepared from root dug in the fall, and also from that dug in the spring, without discovering any appreciable difference in the strength of the preparations.

Preparation of the Tincture.—The following is the manner in which the tincture, presented by us to the Massachusetts Medical Society, was prepared. The root was dug in the month of April, just as the leaves were beginning to make their appearance. After being thoroughly cleansed by repeated washings, the fleshy portions were sliced into quarters, without separating the radicles from the rhizomas. About a bushel of these cuttings at a time were put into a common flour-barrel, prepared by removing both heads and substituting a diaphragm of coarse cloth, about three and a half inches above the chime. The diaphragm was extended upon a hoop, and this was kept in place in the barrel by resting upon nails projecting through holes made in the staves. The barrel, thus prepared and charged, was placed over the register of a common house furnace, by which means the mass of roots was permeated

constantly by a current of heated air. At the end of about twenty-four hours they became sufficiently dry, and were replaced by a fresh lot. The comminution was effected by breaking up the thick pieces with a pestle and mortar, and then passing the whole through a small coffee mill. Pulverization as fine as this, however, is not necessary. The ground root was then macerated a few days in 94.1 per cent.—common burning fluid—alcohol. It was the intention to employ eight ounces of the dried root to each pint of the menstruum, but it was found that eight ounces of the ground veratrum could not even be wet with a pint of alcohol. Consequently the proportion was reduced to about four ounces to the pint. We believe that the tincture thus produced is sufficiently strong for ordinary use. A greater strength could easily be secured by evaporation, if desired. After maceration, a portion of the tincture was displaced by 94.1 per cent. alcohol one part, and water one part. Additional liquid was obtained by subjecting the wet mass to strong pressure under a powerful screw. By these means there resulted from twenty pounds of dried root about ten beer gallons of tincture.

The preparation thus obtained possesses the physical properties of the article heretofore used by the Society, and upon trial was found to produce the same therapeutical results.

Therapeutical Effects.—The veratrum viride was subjected to trial in this Society, in the first place, to ascertain whether the New England plant possessed the properties ascribed to that growing in the Middle and Southern States. The result showed very conclusively that it is not at all inferior to that growing in warmer regions, while there is some reason to believe it is even stronger.

It is as an *arterial sedative* that we have employed this agent. Although possessing great power and virtue, it is by no means a specific, nor will it cure, or even benefit every disease to which the human frame is subject. Indeed there could be no surer way of bringing it into disrepute and neglect, than by claiming *too much* for it. We have derived satisfactory results from its use externally as well as internally, but we wish this one idea to be kept distinctly before the mind, that the good resulting from its use is essentially due to its sedative power over the circulatory and nervous systems. In respect to the particular diseases in the treatment of which we have found the veratrum an invaluable agent, the reader is referred to the cases which follow, being from notes recorded at the bedside of the patients during the daily visits of their medical attendants.

Dose.—The dose of the tincture thus prepared, and as we employ it, is as follows: For infants, $\frac{1}{2}$ to 2 drops; children, 2 to 5 drops; adults, 3 to 10 drops—every two hours, or *pro re natá*. When the characteristic effect is not produced upon the pulse, and nausea, vomiting or diaphoresis do not supervene, the dose may be cautiously increased, while the effect is carefully watched. If either of the results last mentioned are secured, a diminution of the dose, or a temporary suspension of its use, would be proper.

General Remarks.—The tincture of the *veratrum viride* has given great satisfaction to those who have fairly made trial of it. Were it not our design to confine ourselves to the testimony of our own Society, we could add the names of many men, eminent among the physicians of our country, who have employed it with the most beneficial and gratifying results. From its use by the members of the Middlesex East District Society, we derive three important conclusions, which we desire strongly to impress upon the minds of all who may read this article.

It is *reliable*. As an ARTERIAL SEDATIVE, the Society has found it more certain than any other medicine of the class. In some cases, however, from idiosyncrasy or other cause existing in the patient, the dose must be pushed beyond the directions given, both as to quantity and frequency.

It is *safe*. The first indication of a sufficiently full use being nausea and diaphoresis, one or both; these effects show when it has been carried sufficiently far, and a diminution of the dose, or a suspension of the medicine is temporarily demanded.

It is not a *specific*, as was claimed by those who brought it forward several years ago, and even by some, recently. All that we claim for it is, that it is an arterial sedative of great power and reliability.

A minor, though important consideration in connection with this medicine, is the fact that it grows abundantly in all parts of the country, rendering it easy for every practitioner to prepare the tincture for himself. This will obviate the necessity of paying an exorbitant price for it, under the pretence of its being a new remedy.

From the well known drastic action of the *veratrum album*, it was presumed that the American *veratrum* possessed similar cathartic properties. But the reported experience of almost all who have tested the action of this medicine, goes to establish the fact that it *very seldom, if ever purges*.

Literature of the V. Viride.—For the convenience of those who may wish to examine what has been written respecting this plant, we subjoin the following references. This is by no means a complete list, however, and we would gladly increase it, had we the references within our reach.

Kalm's Travels; *Thatcher's Dispensatory*, p. 360, as *V. album*; *Bigelow's Med. Bot.*, ii. 121; *Rafinesque's Med. Flora*, ii. 273; *Osgood, Am. Journ. Med. Sci.*, xvi. 196; *Am. Journ. Pharm.*, vii. 202; ix. 181, and x. 89; *Griffith, Med. Bot.*, 643; *C. A. Lee, Cat. Med. Pl. N. Y.*, 58; *Wood and Bache, U. S. Dispen.*, 734; *Wood, Therap. and Pharmacol.*, ii. 152; *Trans. Am. Med. Assoc.*, ii. 837; v. 890; *Dunglison, Therap. and Mat. Med.*, ii. 195; *Ellis, Med. Form.*, 39; *Pereira, Mat. Med.*, ii. 103; *Boston Med. and Surg. Journ.*, lvi. 509; *Dewey, Herb. Pl. Mass.*, 205, etc., *passim*.

The succeeding portion of this paper embraces the evidence which the Middlesex East District Society offers in favour of the *veratrum viride* as an arterial sedative. It has been divided into general and special.

General Evidence.—WILLIAM INGALLS, M. D., of Winchester, thus writes : In functional and organic disease of the heart, in measles, scarlatina, pneumonia, typhoid fever, and other diseases and conditions of the system, attended by high arterial action, I have found the *veratrum viride* most reliable in combating that particular symptom, and it need hardly be added, that the headache, restlessness, and other attendants upon an excited circulation will, almost always, yield with that. In a great number of instances I have given it, intentionally, in repeated doses until it has produced vomiting, both in children and adults, and in no one instance has any alarming effect been produced by it. I always inform the nurse or attendant what effects may be expected from its administration, and order them to lessen or increase according to circumstances; this I mention because some have said that this medicine needs much watching, and one in full practice cannot give it. It is true that it has had most vigilant watching from the gentlemen of this Society, and they are well repaid for bestowing it. But let me ask if we ought not to watch the effects, as narrowly as possible, of all the medicines we give and the remedies we employ? Have we indeed learned everything about the action and effects of those agents we most habitually employ?

BENJAMIN CUTTER, M. D., of Woburn, remarks: During the year and a half past I have used the *veratrum* many scores of times, in various diseases, by itself, and in conjunction with other remedies, and I am ready to acknowledge my satisfaction with its medicinal powers in general, and to admit that the longer I use it the better I am pleased with it. Its efficacy I have found more marked in some diseases than in others. Thus, its controlling power is most manifest in inflammatory affections of the chest and of the uterus, and in febrile excitements attended with headache. Many of these complaints can be quieted down and removed entirely by the use of this medicine alone in a very short period of time.

I have used the tincture diluted with two parts of water as an external discutient application in many cases of inflammation of the skin and areolar tissue, and of the mammary glands, with very satisfactory results.

I have rarely seen any unpleasant, certainly no dangerous, symptoms from its use, and think that it is not cumulative in its effects so as to need the close watching that *digitalis* requires.

If the dose is too large, besides the slowness of the pulse always found, there will be nausea or vomiting and sweating.

Should there be too much depression by an overdose, it can be speedily relieved by alcoholic stimulants or opium.

Should it be thought necessary to give a full dose of half a fluidrachm in acute rheumatism to an adult at once, it can be done with perfect safety; at least, I have so used it.

Scarlatina appears to be less controlled by the *veratrum* than any other disease in which I have employed it. But still it is not without value in the

treatment of this disorder, for which its arterial sedative quality would seem to render it peculiarly adapted.

Canker spots upon the tongue and inside the cheeks are sometimes observed in connection with the use of the veratrum, and have been ascribed to its administration. More observations are required to establish this supposition, to which the attention of practitioners is thus directed.

Cataplasms, in which varied amounts of the pounded root of the veratrum were incorporated, are convenient applications to inflamed feet and legs, and were favourite prescriptions of my medical teacher, in such cases, thirty years ago.

ALONZO CHAPIN, M. D., of Winchester, writes, March, 1858: Since the attention of this society was first called to the veratrum viride, some year and a half ago, I have made very constant and frequent use of it in my practice, prescribing it in almost all cases where there was undue arterial excitement, and have at length come to rely upon it as quite indispensable. In cerebral, thoracic, abdominal, and inflammatory diseases generally, causing increased arterial action, the *veratrum viride* has enabled me to subdue and almost control it at will. I have considered it of special value in lowering the pulse where excessive muscular and nervous prostration forbade venous depletion.

In some cases where thoracic inflammation supervened upon typhoid fever, it was of peculiar service. So far as I have taken notes of its effects, I find them quite in harmony with the notices published in the medical journals.

I frequently found the pulse reduced forty to sixty beats a minute in the course of twelve to eighteen hours. Tilden's extract and the saturated tincture have both been used by me, and I have seen no perceptible difference in their effects. I have usually given from three to eight drops once in three hours, sometimes alone, and frequently combined with other remedies.

RICHARD L. HODGDON, M. D., of West Cambridge, writes: I have found the frequency of the pulse diminished by the veratrum viride whenever nausea is induced, *except in cases of cerebral disease*. I have used it in pneumonia, pleuritis, erysipelas, and scarlatina. I employ the concentrated tincture prepared by Keith & Co., of New York. In fact, the veratrum in my practice has almost displaced the use of the tart. ant. et potas. The dose I prescribe is one to one and a half drop for a child of a year or less; for an adult, five drops repeated every two, three, or four hours as required.

HORACE P. WAKEFIELD, M. D., of Reading, states that he has used the veratrum viride as an arterial sedative, and that he has found it a reliable article, unless he was deceived by a series of remarkable coincidences. In every case, he has found the pulse to come down. He deems the veratrum viride the most powerful arterial sedative with which he is acquainted; far superior, in his experience, to digitalis.

TRUMAN RICKARD, M. D., of Woburn, testifies: I have used the veratrum viride in many cases of which I kept no notes, with results exceedingly satisfactory. In a few cases, when I began to use the article, I was disappointed

in the results, as it did not come up to my expectations. But I am now satisfied that the cause of failure was the smallness of the doses. Of its value in controlling arterial excitement, there can be no question.

SAMUEL A. TOOTHAKER, M. D., of Wilmington, writes: I have made trial of the veratrum to some extent, but not having taken notes, am unable to give the exact items. In scarlatina and typhus, it has failed to reduce the pulse, but a rapid diminution of frequency has followed its use in pneumonia and other inflammatory diseases.

EPHRAIM CUTTER, M. D., of Woburn, writes: I am satisfied that the veratrum viride is an arterial sedative, having used it as many, if not more times than any other medicine. I do not rely upon it to the exclusion of other well-known and tried agents, but would look to it first.

Special Evidence.—In functional and organic diseases of the heart, the veratrum viride has been used with much satisfaction.

CASE I.—*Palpitation*. (Reported by TRUMAN RICKARD, M. D.)—Miss L. R., aged 51, had been troubled with palpitation for several days. Proposed to her to try veratrum viride. She laughed at the idea, but consented to take it. Gave her six drops. In an hour or two she said she was really better. The tincture of veratrum viride was continued in doses of gtt. iv, three times daily, for two or three days with marked benefit. The palpitation was connected with spinal irritation.

CASE II.—*Palpitation*. (Reported by EPHRAIM CUTTER, M. D.)—1857, Dec. 18. Mr. A. S., lithographer, 44 years of age, has had palpitation for some time. Latterly, it has increased. The first sound of the heart, after exertion was prolonged, and was heard loudest toward the apex. The præcordial dulness was embraced within the third rib, a line half an inch inside of left nipple and the middle of sternum. Pulse 72. He was put upon the tincture of veratrum viride gtt. vj, thrice daily, besides stated exercise and Hoffmann's anodyne, *pro re natâ*. On the 26th, he reported considerable relief.

CASE III.—(Reported by the same.)—Miss K., a pale, sickly girl of 18, by the use of the tincture of veratrum viride in the usual doses, was relieved from the annoyance of palpitation and dyspnœa on exertion.

CASE IV.—(Reported by the same.)—A married woman, of nervous temperament, 22 years of age, with a phthisical tendency, complained of dyspnœa, with pain in the præcordium and left hand on exertion. She used the veratrum with benefit. Tonics also were employed.

CASE V.—(Reported by the same.)—June 25, 1857. P. E——, an adult, suffered from palpitation. Præcordial dulness extended into the epigastrium. Cardiac sounds somewhat those of the "tobacco heart." Sole treatment, tincture of veratrum viride gtt. vj thrice daily.

July 18. Thought the medicine benefited him, and applied for another ounce.

The veratrum sometimes disappoints, even when pushed.

CASE VI.—(Reported by the same.)—George Garrison, a currier, 20 years of age, May 15, 1858, complained of pain in chest, which shifted about to different quarters, attended besides with slight nausea. Face was flushed. Respiratory murmur pure. Heart's impulse forcible. There were no changed or abnormal sounds over præcordium, that I could detect. Pulse 120. Gave tincture of veratrum viride, gtt. x, thrice daily.

June 5. Soreness over præcordium. Heart's impulse less forcible. Pulse 120, although gtt. xx instead of gtt. x were taken. Complains of intestinal gas. Ordered tincture of veratrum viride to be continued, an emplastr. belladonnæ to præcordium, and pulv. ipecac. gr. ij, and pulv. rhei gr. iij, *pro re nata*.

9th. Pulse 96. Relinquished work; feels better; less troubled with the gas; cardiac disturbance continues. Has taken between twenty and thirty drops of the tincture of veratrum viride thrice daily, he states, without effect.

The following formula was adopted: R.—Tinct. digitalis, tinct. verat. viride, āā gtt. x, *ter in die*.

The patient reappeared in August, improved.

CASE VII.—*Organic Disease of the Heart*. (Reported by W. INGALLS, M. D.)—A lady, 22 years of age, with florid cheeks, fair complexion, auburn hair, light-blue eyes, has been under my care for a long time, with the following symptoms: Tumultuousness, palpitation of the heart, tightness across the chest, dyspnœa, syncope, flatulency, disagreeable and sometimes horrible dreams, blueness of lips. The symptoms named have not been present all at once. The normal sounds of the heart are interrupted, at various intervals, by an irregularity which lasts for the space of about three beats, a hesitation, and then a sound which may be represented by the word *thurrurdup*.

In January, 1857, I saw the patient while suffering with one of her paroxysms, her pulse being 125, and the interruption mentioned above occurring at every 14 beats. I prescribed tincture of veratrum viride gtt. x, to be repeated in two hours, provided there was no relief. In ten hours I found the pulse 85, the interruption at every 40 beats. The first dose only had been taken, for so great a change in her feelings was experienced that she preferred to await my next visit. I myself was alarmed at finding so great a reduction of the pulse in so short a time.

Within a few days, another paroxysm coming on, she took five drops of the tincture with good effect, the pulse being 96, and coming down to 78, the interruptions improving from 18 beats to 58. In a short time it was found that the susceptibility of the patient was so great that doses varying from three drops to one, taken on the approach of a paroxysm of dyspnœa or fainting, would produce the effect of lessening, and, in some instances, of almost entirely overcoming it, as to severity and duration. At this writing the heart

beats with great regularity for the most part, the troublesome symptoms supervening but rarely.

This case was one of the first in which I made use of the *veratrum viride*.

CASE VIII.—*Inflammation of Fauces, with high Febrile Action*. (Reported by TRUMAN RICKARD, M. D.)—April 17, 1858, was called in the morning to visit Alice T——, aged about 4 years. Appearance as follows: Fever high; cheeks purple; pulse 140; respiration nasal and noisy; cough very troublesome. Directed tincture of *veratrum viride*, gtt. iv, every two hours, and pepper-sauce (*capsicum annuum*, var. γ), diluted and sweetened, for the throat. 6½ P. M. Pulse 110; skin moist.

18th. Febrile paroxysm returned; pulse rose to 140. Directed tincture of *veratrum viride*, gtt. v, every two hours; pepper-sauce as before. Pulse fell speedily.

20th. Better; skin moist; respiration 30; breathing less noisy. Continued *veratrum viride*, less frequently, and applied croton oil to the upper portion of the chest. Recovered rapidly.

CASE IX.—*Puerperal Fever*. (Reported by BENJAMIN CUTTER, M. D.)—J. G——'s wife was confined April 2, 1858, with her first child, and had been doing well for ten days. April 12, was called to her, and found pulse 130; headache and pain in the bowels. Gave ol. ricini, so as to produce three dejections. Ordered besides gtt. x of tinct. *verat. viride* every three hours. Took four doses, with marked benefit.

April 13. Pulse 130; headache; uterus tender on pressure; skin moist and warm; some nausea. Continued the *veratrum viride* every two hours.

14th. Pulse 100; vomited occasionally.

Had Seidlitz powders and the *veratrum viride* irregularly for the next two days.

On April 17 a return of severe headache was met by gtt. xij of tincture of *veratrum viride* every hour, till five doses were taken, with entire relief. Afterwards the medicine was occasionally taken, the pulse being steadily kept down by it.

20th. Pulse 70, and the patient convalescent.

CASE X.—(Reported by EPHRAIM CUTTER, M. D.)—Mrs. E. E. T—— was confined April 28, 1858. Had a chill on the 29th, followed by fever. She was treated by my father, Dr. B. Cutter, with calomel and opium, neutral mixture, and the tincture of *veratrum viride*, besides leeches to the os uteri, until May 3, when, on leaving home, the case fell to the reporter. At 10½ A. M. pulse 120, and headache. Ordered tincture of *veratrum viride*, gtt. vj, every hour. Two doses were taken, when vomiting ensued, with profuse sweats and some uterine hemorrhage. At 4 P. M. the pulse was 72. After this the tincture of *veratrum viride* was continued as a febrifuge, *pro re nata*, and almost every dose was followed by sweating, besides reduction of the pulse. It seemed possible to keep the pulse at any point desired. She is now (May

15) convalescent. It should be remarked that Mrs. T—— was not susceptible to opiates.

CASE XI.—(Reported by WILLIAM INGALLS, M. D.)—In a case of inflammation, and subsequent sloughing of the vagina after delivery, the fever was very high, and the tincture of veratrum viride was given in doses of from three drops to ten, but could not be tolerated; every dose created great nausea, without attendant reduction of the frequency of the pulse, and after twelve hours was refused by the patient.

CASE XII.—*Pneumonitis*. (Reported by BENJAMIN CUTTER, M. D.)—A. H——, æt. 40. Seen April 1, 1858. Had been sick since 28th ult. Taken with chills, general soreness, and pain in right chest. His pulse was 110, and respiration 25. Gave powders of submur. hydrarg., tart. ant. and opium. Twelve hours afterwards I found him with pulse 132, respiration 22, complexion very sallow, expectorating bloody sputa. Bled him 24 ounces. Continued the powders, and gave tincture of veratrum viride, gtt. x, every two hours.

April 3. Had vomited freely for two or three hours. Pulse 80, respiration 20. Continue veratrum viride.

4th. Veratrum viride taken irregularly. Pulse 96, respiration 20. Ordered veratrum viride, gtt. x, every two hours.

5th. Pulse 60.

6th. Pulse 72; some canker on tongue. Take veratrum viride, gtt. x, every eight hours.

7th. Pulse 74; hungry. An egg for breakfast.

10th. Pulse 76; down stairs; eats beans.

11th. Out doors; convalescent, with rapid recovery.

A blister was applied the fourth day, and the bloody sputa occurred almost daily until after leaving his chamber.

CASE XIII.—(Reported by the same.)—April 12, 1858. P. D——'s daughter, 2 years old, with pneumonia in the second stage. Sick since the 8th. Pulse 170, respiration 80 per minute; panting, sometimes screeching; no sleep; mother a poor nurse. Ordered a wet towel to be kept constantly about the chest, and full doses of tartarized antimony and the veratrum viride every hour, as much as could be borne. These were continued till the child came fully under the influence of the veratrum viride, and then dropped.

13th. In the morning, pulse 130, respiration 56; screeches sometimes; pants. Veratrum viride continued, in smaller doses.

14th. Easier.

15th. Pulse 130, respiration 40; child bright.

After this, the little patient improved and recovered.

CASE XIV.—(Reported by R. L. HODGDON, M. D.)—January 5, 1858. A child, 4½ years old, was found with a frequent dry cough, hot skin, rapid respiration, furred tongue, and a pulse of 140. R.—Calomel gr. iij; follow with ol. ricini. R.—Tinct. verat. vir. gtt. iij, every three hours.

6th. Copious dejection; vomiting this morning; pulse 84 (a reduction of 56); cough frequent; respiration slower.

7th. Pulse 120. Has not taken *veratrum viride* since last evening. Resume *veratrum viride*.

8th. Has vomited; pulse 60 (reduced 60). Ordered tinct. *veratrum viride* gtt. ij every two hours.

9th. Pulse 80. Continue *veratrum viride*.

10th. Pulse 80. *Veratrum viride* continued. From this date the convalescence was rapid. There was no medicine exhibited after the cathartic but the *veratrum viride*.

CASE XV.—(Reported by the same.)—Mr. C——, aged 44, March 13, 1858, has great pain in right side, with frequent cough, dyspnœa, and a pulse of 120. He has taken cathartics. Ordered leeches to side, and tincture of *veratrum viride* gtt. v, with $\frac{1}{16}$ gr. of sulphate of morphia, every three hours.

March 14. Pulse 80; pain less.

15th, A. M. Pulse 100; slept during the night, and omitted the *veratrum viride*. Resume *veratrum viride*.

15th, P. M. Pulse 60; some nausea; no vomiting. Ordered tincture of *veratrum viride*, gtt. iij, every four hours, with Dover's powder at night.

16th. Pulse 72. Omit *veratrum viride*.

CASE XVI.—(Reported by the same.)—April 19, 1858. Mrs. H——, aged 84, while recovering from the effects of extensive suppuration in right arm, sat at an open window yesterday half an hour, and shortly afterwards had a chill, with sneezing and coughing. To-day she has an urgent cough, a pulse of 104, and crepitus in lowest lateral third of chest. R. Tinct. verat. viride gtt. iij; sulph. morphiæ gr. $\frac{1}{16}$; liq. ammon. acet. fʒss.—M. Take every three hours.

20th. Pulse 82; troublesome cough; rusty sputa. Omit *veratrum viride*.

21st. Pulse 94. Resume *veratrum viride* as before.

22d. Pulse 76. Take *veratrum viride* every four hours.

25th. Had diarrhœa, after which the cough suddenly ceased.

CASE XVII.—(Reported by TRUMAN RICKARD, M. D.)—Martha C——, aged 5½ months, was seized with inflammation of the lungs, Feb. 26, 1858. I saw her in the afternoon of the 27th. With the characteristic symptoms of pneumonia, I found her pulse 184. Ordered fomentations to the affected region, draughts to the feet, and tincture of *veratrum viride*, gtt. iss, every two hours.

February 28, 10 A. M. Better in all respects; pulse 125. Continue same treatment during the day, reducing the dose of the verat. viride to one drop.

March 1. Doing well. Directed an expectorant mixture, and tincture of *veratrum viride*, gtt. j, every four hours; more frequently if fever comes on.

2d. Pulse rose yesterday to 150, but a return to the *veratrum viride*, gtt. j every hour, brought it down, and it has not risen so high since. Continue

expectorants and *veratrum viride* less and less frequently. She made a speedy and good recovery.

CASE XVIII.—(Reported by the same.)—May 22, 1858. The subject of the last case had another attack. Saw her at 7½ o'clock A. M. Found her as follows: Face pale; eyes dull; head hot; pulse 150; respiration 60; cough troublesome; hoarseness; dulness of right lung on percussion, and an abundant mucous rale over the right lung. Directed the head to be bathed freely with cold water, and prescribed tincture of *veratrum viride*, gtt. iss, every two hours.

23d, A. M. Pulse 120; brighter; head cooler. Continue *verat. viride*. P. M. Pulse 150; respiration 90; cough; a little hoarse; also crepitus and diminished resonance on percussion at base of left lung. Directed tincture of *veratrum viride*, gtt. ij, every two hours; calomel ¼ gr. and pulv. ipecac. ¼ gr. every two hours; cold water dressing to the throat.

24th, 10 A. M. Pulse 72 (a reduction of 78); face pale; skin cool and moist; respiration 57; no urine for twenty-four hours past. Directed cream of tartar water, and omitted *veratrum viride* till next visit. Apply turpentine stupe to back.

25th. Pulse 120; respiration 60; cough loose; skin cool and moist. Apply stupe to chest, and use expectorant mixture, with occasional doses of the *verat. viride*.

26th. Pulse 90; quiet; rested well during the night; respiration 48; skin cool and moist. Omit *veratrum viride*; continue stupe once daily to back, or front of chest; also the expectorant mixture. From this time she went on well, and made a good recovery.

CASE XIX.—(Reported by HOWLAND HOLMES, M. D., of Lexington.)—In one case of pneumonia, patient an adult, pulse 84, I gave gtt. iij tinct. of *veratrum viride* every four hours. At my next visit, twenty-four hours after, found patient's pulse 74. Directed tincture to be given every two hours, and nine hours after I found the pulse 62. Nausea or other unpleasant effects were not induced.

CASE XX.—Dr. J. D. MANSFIELD, of South Reading, relates a case of pneumonia of left lung in a young man of 20, of scrofulous diathesis, in which the tincture of *veratrum viride* seemed rather to *increase* than *diminish* the pulse. The case was fatal on the ninth day of treatment and thirteenth of disease. There was other treatment.

CASE XXI.—*Acute Rheumatism*. (Reported by ALONZO CHAPIN, M. D.)—May 20, 1858, P. M., I was called to a young man about eighteen years of age, with symptoms simulating acute pleuritis in the inferior portion of the right thorax. Prescribed a sinapism to the part; ten grains of Dover's powder at bedtime, and tinct. *veratrum viride* (Tilden's extract) gtt. viij every two hours.

21st. A. M. Passed a restless night. Symptoms same as the night before;

pulse at 100. Continue the veratrum viride. P. M. Pain much diminished; vomiting; pulse 90. Suspend all medicine for the night.

22*d.* A. M. Pulse again at 100. Pain had entirely left the chest, but both knees and ankles were swollen and painful. Continue veratrum viride gtt. viij, with gtt. xx of nitric ether, every three hours.

23*d.* Pulse 72. Pain and tumefaction less. Continue veratrum viride.

24*th.* Much improved; had slept well the previous night; tongue cleaning; urine, which had been highly lateritious, improved; appetite returning.

25*th.* Veratrum viride has been given occasionally the past 24 hours. Pulse now 72. Pain severe in the joints of toes, elsewhere has left him entirely, and there is an appearance of speedy recovery. The patient had on a former occasion suffered much from hypertrophy of the heart, and there was difficulty in controlling the excessive action. During the present instance, the heart became at one time tumultuous when the veratrum was omitted. Its resumption served very soon to restore quiet. I consider the veratrum as possessing additional value in this case on account of the cardiac complication.

It will be seen, too, that my first view of the case was changed by its after symptoms, and that what at first seemed pleuritis, proved to be acute rheumatism. Its course has thus far been more rapid than usual, and it now promises a more speedy termination than is common.

CASE XXII.—(Reported by EPHRAIM CUTTER, M. D.)—Mr. S. S. M., in bed with an attack of acute rheumatism was treated with phosphate of ammonia and tincture of colchicum seeds—grs. xv of the former and fʒss of the latter every four hours. During the interval, he took gtt. vj of the tinct. veratrum viride. The pulse soon fell from 120 to 96. On account of nausea it was discontinued.

CASE XXIII.—(Reported by WILLIAM INGALLS, M. D.)—A young man, 19 years of age, of a naturally lax texture and white skin, applied for advice on the 12th of May, 1858. Had not felt very well for several days; could hardly tell what was the trouble; indisposed to move about; not much appetite; bowels irregular; skin cool and of a yellowish cast; tongue coated; pulse 60, soft, and full. Gave a cathartic containing calomel.

13*th.* Reported himself better.

14*th.* 4½ A. M. Found him in bed suffering intense pain in the right foot, which is somewhat swollen, and of a pink hue on the instep and the region of inner ankle. Had been thus for four or five hours. Pulse 106, full and rather hard; tongue coated; skin hot and dry. Learned that on the day previous, which was a cold, drizzly, northeasterly day, the patient was out of doors a good deal, and was otherwise imprudent. *Diagnosis*.—Acute rheumatism. *Treatment*.—Tinct. veratrum viride gtt. v every two hours, and cold water dressing to foot.

In the afternoon, finding the left foot was becoming inflamed, and that there was no amelioration of any symptom, I ordered tinct. veratrum viride

gtt. x every two hours and water dressings. Shortly after the third dose, vomiting commenced and continued nearly three-quarters of an hour. This was at 11 P. M. Pulse 94, full and softer. He took no medicine until the next morning, which was the

15th. 8 A. M. Patient expressed himself as having been wonderfully free from pain for the last eight or nine hours, as compared with the twenty-four previous—still he could not be turned over in bed without suffering agony. Pains now attacking knees; pulse 102. Again ordered the ten drop dose to be given as before. After the fourth dose, vomiting took place.

In the evening, pulse 86; redness subsiding in the feet; pains very much less.

From Sunday, May 16th, to the morning of Thursday, May 20th, the hips slightly, the shoulders, elbows, and wrists were successively attacked, beginning on the right. He took, during this time, tinct. *veratrum viride* gtt. v every two hours, commencing on Sunday morning, and prolonging the interval between the doses in such a manner that on Thursday morning it was omitted. On Friday he was dressed, and with a little assistance came down stairs where I found him free from pain, redness, and swelling. Appetite good; pulse 72. He has been well since.

CASE XXIV.—*Pleuritis*.—ALONZO CHAPIN, M. D., in March, 1858, thus writes: Last fall I attended a man with typhoid fever, who, after an illness of several weeks, had convalesced so far as to get out of doors. He was suddenly seized with the symptoms of acute pleuritis, and having been so prostrated by the previous fever that general bleeding was out of the question, and leeching was to be avoided if possible, I relied upon the *veratrum viride*, giving him eight drops of Tilden's extract every three hours, to control the circulation, and found it entirely satisfactory. It rapidly subdued the excited pulse, and kept it in a good degree of subjection, better than could have been expected from any other article. Adjuncts were used as indicated, and the patient seemed to bear tonics and stimulants earlier and more freely when accompanied with the *veratrum* than in the previous convalescence. He recovered well, and, as far as I can detect, is free from the adhesions and effusions incident to such attacks.

CASE XXV.—(Reported by J. D. MANSFIELD, M. D.)—Miss S. L., aged 18, was suffering with the rational signs of a severe inflammation of the pleura. Under the use of the tartrate of antimony and potassa, nitrate of potassa, tinct. *digitalis* and hot fomentations, with pulv. *ipeac.* subsequently, in four days these symptoms abated. On the fifth day from seizure, a relapse. Gave tinct. *veratrum viride* gtt. vj once in four hours. The next day pulse was reduced from 128 to 86. Breathing quiet; skin moister; pain gone.

CASE XXVI.—(Reported by MOSES PARKER, M. D., of Melrose.)—The patient was a man about 40 years of age, of a nervous temperament. He

was suffering from pleuritic effusion. There was present a constant cough; a pulse of 90 (it had been so several *days*, and I think *weeks*); debility; anorexia, and an inclination to low spirits. He had used the wet sheet so as still farther to reduce his vitality. Directed gtt. iv of Tilden's extract of veratrum viride—to be repeated in four hours, should the pulse not become reduced. His wife misunderstood the directions and repeated the medicine unnecessarily. The second dose acted with power and produced great prostration. Found the pulse 40 beats lower than at the previous visit, although he had begun to rally. The symptoms of depression yielded readily to brandy. At the end of an hour he was comfortable, and the pulse at the normal beat.

The patient was very much alarmed, and refused to take any more veratrum. The points of interest in this case are the great and speedy reduction of the pulse—he took but two doses—and the prompt reaction under the use of an alcoholic stimulant.

CASE XXVII.—*Measles*. (Reported by TRUMAN RICKARD, M. D.)—Mrs. M., a wet nurse, sick with measles, I visited April 25, 1858, and found her as follows: Pulse 120; head very hot, and aching very badly over the left eye; restlessness and thirst; eruption out well upon the face and neck, but not developed upon the trunk. Directed a warm vapour bath to be applied in bed, and tinct. veratrum viride gtt. vj every two hours. Expected to find it necessary to apply leeches to the left temple.

26th. Pulse 104; headache gone; eruption coming out upon the body finely; much better. She took but two doses of the veratrum viride, as it produced vomiting.

27th. Needs no farther attendance.

CASE XXVIII.—(Reported by same).—J. C. R., aged 6½ years, had a prompt and well developed eruption. The febrile action was high. Pulse 140; restless. Gave one dose of tinct. veratrum viride to see what effect it would produce upon the heat and restlessness. In half an hour the pulse fell *eight* beats; the surface became cooler, and the child much more comfortable.

I have come to the conclusion, after repeated trials of the veratrum viride in measles, that a dose given occasionally moderates the intensity of the febrile action, promotes the comfort of the patient and certainly does not retard the eruption.

CASE XXIX.—(Reported by EPHRAIM CUTTER, M. D.)—A boy 8 years old, who went out too soon after having had measles, experienced a chill, which was followed by headache and fever; the pulse being 120.

The veratrum was exhibited in three drop doses every hour for four or five times. No vomiting ensued. He became relieved of the cephalalgia, and the next day the pulse was found to be 60. The only other medicine was a simple cough mixture.

CASE XXX.—*Bronchitis*. (Reported by BENJAMIN CUTTER, M.D.)—C. R., aged 5½ years, May 20, 1858, has been sick four days with cough and cold. Pulse 130; respiration 40. Gave tinct. veratrum viride gtt. ij every hour.

21st. Pulse 112; respiration 45; chest resonant. Veratrum viride to be doubled till nausea.

22d. Pulse 80; respiration 40; did not sleep well; urinates freely.

23d. Pulse 92; respiration 25. Down stairs, being dressed; bright; better.

CASE XXXI.—*Influenza*. (Reported by TRUMAN RICKARD, M.D.)—This case shows the prompt effect of the veratrum. Mrs. E. R. R. was attacked with influenza March 14, 1858. At 8 o'clock P.M., fever high; headache severe; pulse 112, and increasing up to present time. Gave tinct. veratrum viride gtt. viij. In one hour the pulse fell to 100. At bedtime repeated the dose. Patient much better in the morning. No other treatment was adopted.

CASE XXXII.—*Infantile Remittent Fever, complicated with Vascular Irritation of the Encephalon*. (Reported by TRUMAN RICKARD, M.D.)—Sarah P——, aged three and one-half years, was taken sick on Monday morning, February 1, 1858. She was well, apparently, the preceding day, and slept well the night before the attack. When she awoke in the morning she complained of feeling sick, and did not wish to get up. Simple domestic remedies were employed during the day, and on the morning of Tuesday her parents thought her better. It soon became apparent to them, however, that there was in reality no improvement, but that she was actually getting worse, and I was asked to see her at 4½ o'clock P.M. Her condition at the time of my visit was as follows: pulse 188, and irregular; respiration 48; cheeks flushed and almost purple from the intensity of the febrile action; head hot; tongue covered with a thin, yellowish-white coating; constant drowsiness; the pupils somewhat dilated and vacillating; eyelids partially closed; convulsive startings of the upper and lower extremities; and a strongly-marked fear of falling when taken up; respiratory murmur clear throughout both lungs; had passed no urine during the day. She perspired freely on Monday, her mother informed me, but at this time the skin was dry and hot. She lay, the most of the time, in a state of semi-unconsciousness, and very seldom responded to the questions proposed by her parents and attendants. Her symptoms clearly indicated that the brain was suffering from the intense vascular excitement. Regarding the case as an excellent one for a trial of the veratrum viride, I decided upon that as the principal remedial agent at this time.

Treatment.—Feb. 2. Directed tincture of veratrum viride gtt. v, every two hours; cloths wet in cold water to be applied to the head; mild sinapisms to the feet; as perfect quiet as possible, and the room to be darkened. The

first dose of the veratrum viride was administered at 5 o'clock P. M. At 5 P. M. pulse 188; at 9 P. M., 134; at 11 P. M., 118.

3d. At 1 A. M. pulse 116; at 5½ A. M. 136; at 8½ A. M. 144; at 10 A. M. 145. Febrile paroxysm returning. There is a constant hacking cough; respiration nasal; fauces red; left cheek very much flushed; right cheek pale; general heat of surface not so great as yesterday; pulse a little hard. Gave a powder consisting of calomel, gr. iij, and cream of tartar, gr. iv, to move the bowels. Directed a tablespoonful of water, sweetened and acidulated with cream of tartar, to be given every two hours; continue veratrum viride and other adjuvants as yesterday.

At 5 P. M. pulse 145. The calomel produced three evacuations in the afternoon, and the kidneys responded to the cream of tartar.

At 8½ P. M. pulse 120. Febrile paroxysm subsiding. Directed veratrum viride gtt. iv, every four hours, and a powder consisting of calomel gr. ¼, and ipecac. gr. ⅓, every four hours. Directed gum water for nourishment. Continue cold cloths to the head and sinapisms to the feet. During the night pulse 120 to 130.

4th. At 10 A. M. pulse 136; at 11 A. M. 142. Febrile paroxysm began to come on in the morning; remittent character of the disease well developed; respiration 40. Continue veratrum viride as yesterday, and a powder consisting of calomel and ipecac. ʒā gr. ¼ every four hours; continue the drinks and other adjuvants as heretofore. At 7½ P. M. pulse 140; in the night 140 to 134. Directed an enema to be given in the morning.

5th. At 10 A. M. pulse 136. Respiration quiet; tongue moist, with a thin, darkish coloured coat; head cool; intellect clearer. Called for her doll this morning, and, when brought, kissed it. The injection administered in the morning acted promptly, and brought away a large quantity of *muddy* looking fecal matter. The hacking cough continues. Directed pepper sauce diluted and made very sweet, in small quantities for the fauces. Continue veratrum viride and powders as yesterday; continue drinks; omit cold to the head and sinapisms to the feet. Pulse *regular* and soft, remaining at 134 from 2½ to 11 P. M.; respiration 38; fever less during the day than yesterday; head cool; sleep quiet.

6th. At 1 A. M. pulse 130; at 2 A. M. 124; at 3 A. M. 128; at 11 A. M. 128. Getting a little feverish; passed urine freely; tongue moist, darkish coat still continues; intellect clear; first observed a shawl that had been used several days to darken the window behind her couch; wants her playthings; wants to sit up. Continue the veratrum viride as yesterday; omit calomel and ipecac.; is to use the cream of tartar water for drink *ad libitum*; continue the gum water; directed chlorate of potash and bicarbonate of soda, ʒā gr. j, in solution every four hours; Dover's powder at bedtime to secure sleep. At 9 P. M. pulse 124.

7th. At 10 A. M. pulse 113. Tongue moist, coating thinner; bowels acted several times during the night, passing off green bile; kidneys act

freely; respiration 34. There was a slight return of the convulsive motions of the arms during the night, with restlessness; cough troublesome. Directed veratrum viride gtt. iv, every six hours, and Dover's powder and hyd. cum cretâ every six hours; omit the cream tartar water; continue to use the gum water; continue the chlorate of potash and soda.

At 1 P. M. pulse 104; at 4½ P. M. 98; at 9 P. M. 94, and skin moist. Dover's powder at bedtime to secure sleep.

8th. At 10¼ A. M. pulse 99. Rested during the night much better than the previous night. Tongue cleaning; appetite begins to return; is fully conscious, but very weak. Directed small doses of rhubarb and soda three times daily; also veratrum viride gtt. ij, and sweet spirits of nitre gtt. x, every four hours; Dover's powder at bedtime; omit chlorate of potash and soda.

9th. At 11 A. M. pulse 105. Tongue pretty well cleaned; was restless last night; rather more heat; the irritation in the fauces produces a troublesome cough. Directed to employ the pepper sauce and sugar, but not to give drink immediately after its use; continue the veratrum viride and nitre, and rhubarb and soda; Dover's powder at bedtime.

10th. At 10 A. M. pulse 94. Convalescence fairly established; cough much better; fauces better. Continue medicine as yesterday.

11th. At 10 A. M. pulse 96. Going on well. Omit veratrum viride; continue rhubarb and soda; directed citrate of iron, gr. j in solution, three times daily; Dover's powder at bedtime.

12th. At 11 A. M. pulse 95. Throat and cough very much better; rested well last night; strength and appetite improving. Continue medicine as yesterday.

15th. At 2 P. M. pulse 94. Has been doing finely, and gaining strength well. Omit rhubarb and soda; continue iron, and Dover's powder at bedtime if needed. Took leave of patient. She continued to improve, and made a good recovery.

The points of special interest in this case are the suddenness and severity of the attack, the semi-unconsciousness so long continued, and the excellent effect of the veratrum from the time of administering the first dose. Although the quantity given at first was somewhat large for a child of that age, no nausea was produced.

CASE XXXIII.—*Scarlatina*. (Reported by EPHRAIM CUTTER, M. D.)—Ellen McElroy, 2 years and 4 months old, with strawberry tongue, scarlet rash, and a strong pulse of 144, took, March 11, 1858, four drops of the tincture of veratrum viride every two hours. Creasote was exhibited for irritability of stomach, and bitartrate of potassa water for drink. The following day the pulse was 96.

There are some cases over which the veratrum viride has no power. Reference is here made to instances of scarlet fever, two of which have just occurred. Both died. No effects on the heart or stomach were produced by

the administration of the tincture in the usual quantity every hour. Probably no medicine would avail in these cases.

CASE XXXIV.—(Reported by W. INGALLS, M. D.)—Oct. 10, 1857. Ella — 8 years old, a delicate child, with hypertrophy of the heart from infancy, if not from birth, had been “not very well” for three days. The only guide to a diagnosis was a pulse of 110, and a strawberry tongue. The day previous to my visit there was, as described by her mother, an eruption of a red colour upon the neck and arms. The patient is very thin, and the beating of the heart may be heard and felt throughout the chest, and in the erect posture a considerable movement is imparted to the whole frame by the palpitation.

Tincture of *veratrum viride*, gtt. iv, was prescribed every three hours besides quietude and light nourishment. In a few days there was desquamation of the skin, followed shortly after by anasarca and hematuria. During the course of these sequelæ the tincture of *veratrum viride* was taken quite constantly, the pulse ranging from 100 to 125, as sure as the influence of the medicine was lost, and being as low as 88 to 94 while under it.

I have not mentioned all the treatment, as it is not necessary for the purposes of this report.

The child recovered and has remained as well as usual ever since, which is now about ten months.

ART. II.—*Account of the Yellow Fever, as it occurred on board the U. S. Frigate “Susquehanna,” in March and April, 1858.* By ROBERT T. MACCOUN, M. D., U. S. Navy. (Communicated by W. WHELAN, M. D., Chief Bureau Medicine, U. S. N.)

THE U. S. frigate “Susquehanna,” whilst lying at our naval rendezvous at Spezzia, in Sardinia, received orders on the 16th of October, 1857, from the Hon. Secretary of the Navy, to proceed to San Juan de Nicaragua.

Accordingly, on the 22d of the same month, she sailed for the above-named port, touching at Genoa, Madeira, and Key West, *en route*.

She arrived in San Juan early in December, with her officers and crew in a perfectly healthy condition.

About ten days after coming to anchor, intermittent and remittent fevers became prevalent on board. These fevers, which are endemic in the country, are of a mild form, and easily arrested by a few doses of quinine. At first they were almost entirely of the intermittent type, but, as the time of our sojourn lengthened, they gradually assumed the remittent type, becoming more severe, but never fatal.

During this period, gastro-enteritic affections became very common, the slightest imprudence in diet producing cholera morbus or diarrhœa. Scorbutic